

Claims

What is claimed is:

1. A system for interacting with an object, the system comprising:
 - a method call interceptor operable to intercept a method call to an object and to route the method call to a proxy, the method call interceptor accessible to application code; and
 - an application code generic proxy operable to receive an intercepted method call, the application code generic proxy further operable to invoke a method on the object, to receive results from the object and to pass results to the entity that generated the intercepted method call.
2. The system of claim 1 where the object is located across a remoting boundary.
3. The system of claim 2 where the object is marshaled by reference.
4. The system of claim 2 where the object is marshaled by value.
5. The system of claim 1 where the method call interceptor is further operable to populate a call information data store with information associated with the intercepted method call, the call information data store accessible to the application code generic proxy.
6. The system of claim 5 where the call information data store is populated with at least one of a method name, one or more input parameters, a count of the number of input parameters, one or more type identifiers associated with the input parameters, a count of the number of return parameters for the method call, one or more type identifiers associated with the return parameters, class/interface defining method data, a stack pointer and a heap pointer.

7. The system of claim 6, where the call information data store is a message object that can be serialized and passed across a remoting boundary.
8. The system of claim 1 where the method call interceptor is further operable to transfer control to a method in the application code generic proxy, where the method in the application code generic proxy overrides a base class method defined in a base class object from which the application code generic proxy inherits.
9. The system of claim 1 where the application code generic proxy is operable to perform proxy pre-processing before invoking the method on the object.
10. The system of claim 9 where the proxy pre-processing comprises at least one of load-balancing, transaction processing, object migration, object persisting, monitoring remote method calls, caching local data, caching remote data, controlling remote method call invocations and machine learning involved in optimizing remote method call invocation.
11. The system of claim 1 where the application code generic proxy is operable to perform proxy post-processing after receiving the results from the object.
12. The system of claim 11 where the proxy post-processing comprises at least one of auditing, transaction processing, object migration, object persisting, monitoring remote method calls, caching local data, caching remote data, controlling remote method call invocations and machine learning involved in optimizing remote method call invocation.
13. The system of claim 1 where the application code generic proxy invokes the method on the object by invoking a method available in a remoting infrastructure.

14. A computer readable medium containing computer executable components for a system for interacting with an object, the components comprising:

a method call intercepting component operable to intercept a method call to an object and to route the method call to a proxy, the method call intercepting component accessible to application code; and

an application code generic proxy component operable to receive an intercepted method call, the application code generic proxy component further operable to invoke a method on the object, to receive results from the object and to pass results to the entity that generated the intercepted method call.

15. A method for interacting with an object, the method comprising:

creating a base class proxy object;

creating an application code generic proxy, where the application code generic proxy inherits from the base class proxy object;

overriding a base class method defined in the base class, where the overridden method will receive an intercepted method call;

intercepting a method call on the object;

routing the method call to the application code generic proxy;

invoking a method on the object;

receiving a first result from the object; and

returning a second result to the entity that generated the intercepted method call.

16. The method of claim 15 where the application code generic proxy performs proxy pre-processing before invoking the method on the object.

17. The method of claim 16 where the proxy pre-processing comprises at least one of load-balancing, transaction processing, object migration, object persisting, monitoring remote method calls, caching local data, caching remote data, controlling remote method call invocations and machine learning involved in optimizing remote method call invocation.

18. The method of claim 15 where the application code generic proxy performs proxy post-processing before returning the result to the entity that generated the intercepted method call.
19. The method of claim 18 where the proxy post-processing comprises at least one of auditing, transaction processing, object migration, object persisting, monitoring remote method calls, caching local data, caching remote data, controlling remote method call invocations and machine learning involved in optimizing remote method call invocation.
20. The method of claim 15 where the object is located across a remoting boundary.
21. The method of claim 20 where the object is marshaled by reference.
22. The method of claim 20 where the object is marshaled by value.
23. A computer readable medium containing computer executable instructions for performing a method for interacting with an object, the method comprising:
 - creating a base class proxy object;
 - creating an application code generic proxy, where the application code generic proxy inherits from the base class proxy object;
 - overriding a base class method defined in the base class, where the overridden method will receive an intercepted method call;
 - intercepting a method call on the object;
 - routing the method call to the application code generic proxy;
 - invoking a method on the object;
 - receiving a first result from the object; and
 - returning a second result to the entity that generated the intercepted method call.

24. A data packet adapted to be transmitted between two or more computer processes, the data packet comprising:

one or more identifier/value pairs, the identifier identifying the value associated with the identifier/value pair, and the value providing information associated with an intercepted method call on an object.

25. The data packet of claim 24 where the information associated with an intercepted method call on an object comprises at least one of method name, one or more input parameters, a count of the number of parameters input to the method, one or more type identifiers associated with the input parameters, a count of the number of return parameters for the method, one or more type identifiers associated with the return parameters, class/interface defining method data, a stack pointer and a heap pointer.

26. The data packet of claim 25, where the data packet is a serializable message object that can be passed across a remoting boundary.

27. A system for interacting with an object, the system comprising:

means for creating a base class proxy object from application code, where the base class proxy object has a method that can be overridden by an inheriting application code generic proxy so that the overridden method can receive an intercepted method call;

means for creating the application code generic proxy, where the application code generic proxy inherits from the base class proxy object and where the application code generic proxy overrides the base class method that can be overridden;

means for intercepting a method call and for transferring control to the overridden base class method in the application code generic proxy;

means for the application code generic proxy to receive the intercepted method call;

means for providing the overridden base class method with a call data structure associated with the intercepted method call;

means for the application code generic proxy to invoke the method on the object;

means for the application code generic proxy to receive a first result from

the object; and

means for the application code generic proxy to return a second result to the entity that generated the intercepted method call.

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